

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION

Board of Regents, The University of Texas
System, and 3D Systems, Inc.,

Plaintiffs,

v.

EOS GmbH Electro Optical Systems,

Defendant.

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Civil Action No. A03 CA 113 SS

**EOS GMBH ELECTRO OPTICAL SYSTEMS' RESPONSE
TO PLAINTIFFS' OPENING *MARKMAN* BRIEF**

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I. INTRODUCTION

This Court can ignore the first five pages of Plaintiffs' Opening brief. They have no bearing on the claim construction issues. For example, on page 1, Plaintiffs try to paint a picture that it was Carl Deckard at UT who "invented" laser sintering, and that EOS copied DTM's machines. In addition to being untrue,¹ Plaintiffs assertions are utterly irrelevant to claim construction. Plaintiffs also inject made-up terms such as "Curl Interface" and "Growth Interface" in an attempt to confuse the *Markman* process.² Why do Plaintiffs need to manufacture new terminology even further removed from the patents? We shall see.

With regard to actual *Markman* issues, Plaintiffs only address two claim elements: the "temperature control means to moderate the temperature difference" limitation in claim 1 of the '589 Patent, and the related "heating ... to moderate a temperature difference" step in claim 1 of the '070 Patent. There is no dispute that the former is a means-plus-function limitation under 35 U.S.C. §112, ¶6, but the parties dispute whether the latter is a step-plus-function limitation under the same statute. Regardless of whether the step in Claim 1 of the '070 Patent is in step-plus-function format, "moderat[ing] a temperature difference" is itself a limitation *of each claim*, and its construction is in the first instance dictated by the specification and *what was said in the file history to obtain allowance of the claim*.

During the prosecution of both patents, Dr. Deckard, consistently and repeatedly stated in no uncertain terms that "moderating a temperature difference" includes the removal of bulk heat to prevent growth of the part being built. These statements were made for the express

¹ EOS will not clutter the record here by responding to each and every one of these unsubstantiated statements. However, EOS notes that at the technical tutorial, it proved that the general concept of laser sintering was known at least as early as 1981 when the Housholder patent issued, years before Carl Deckard entered the field.

purpose of distinguishing the prior art: U.S. Patent No. 4,818,562 to Arcella *et al.* (“Arcella”) (Exh. D, pp. 111-119). Because the broader claim scope -- simply heating the top layer -- was expressly disclaimed in order to obtain claim allowance, Plaintiffs cannot recapture that claim scope by arguing that “moderating a temperature difference” does not also require the removal of bulk heat to prevent growth.

Interestingly, Plaintiffs try to paint Deckard and his patent attorney as fools, who supposedly made incorrect, gratuitous, and otherwise stupid arguments to obtain allowance of the patents-in-suit. Yet these were the representatives chosen by UT to represent it before the Patent Office. The black-letter law does not permit the patentee to assert an “incompetency” plea based upon its former representation before the Patent Office. *Spring Window Fashions LP v. Novo Indus., L.P.*, 323 F.3d 989, 995 (Fed. Cir. 2003) (noting that the “public notice function of a patent and its prosecution history requires that a patentee be held to what he declares during the prosecution of his patent” and that where the prosecuting attorney’s statements were “detailed, consistent, and repeated,” a “reasonable competitor would have believed that the applicant’s disclaiming statements were not a mere mistake”); *see also Desper Prods., Inc. v. Qsound Labs, Inc.*, 157 F.3d 1325, 1334-36 (Fed. Cir. 1998) (patent attorney’s remarks regarding pending claim were not “extraneous” where they were made to overcome prior art and would be used to interpret language of the claim).

² Remarkably, the only “evidence” Plaintiffs rely on in these five pages is the Declaration of Plaintiffs’ trial counsel, Robert Dickerson.

II. “MODERATING A TEMPERATURE DIFFERENCE” MUST BE CONSTRUED TO INCLUDE THE REMOVAL OF BULK HEAT FROM THE FUSED PART TO PREVENT GROWTH

A. What Is The Meaning Of “Moderating A Temperature Difference”?

In Claim 1 of the '589 patent, construing “moderating a temperature difference” to include the removal of bulk heat is consistent with the plain meaning of the claim. Note that the word “heating” does not even appear in the claim.

Plaintiffs cite a dictionary definition of “moderate” to mean “lessen,” and lessening can certainly occur during “moderation.” However, moderate means just a bit more than “lessen.”

In WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY (1981),³ the verb “moderate” is also defined as “to make moderate or temperate.” (Exh. G.) As an adjective, “moderate” is also defined as “tending toward the mean or average” (Exh. G) and “temperate,” in connection with temperature, means not too hot and not too cold. Thus, to moderate, one lessens the extremes *by urging both extremes inward toward the mean or average*. POne does not moderate something by merely pushing one extreme toward the other.⁴

At page 8 of its brief, 3D stresses (in heading B) the importance of construing claim terms “in context” and “consistent with the surrounding text.” 3D then ignores all of the language in the claim element at issue, and focuses its analysis on the word “heating,” which appears only in Claim 1 of the '070 patent.

But Claim 1 of the '070 patent does not recite “heating” by itself, it recites “heating ... to moderate the temperature difference.” Viewed in context, Claim 1 of the '070 patent requires “heating the second layer of powder *to a temperature below the sintering temperature of the*

³ EOS continues the identification of Exhibits from its Opening Brief.

⁴ Indeed, after the “sun moderates the chill,” as suggested by 3D’s definition, the air is warmer than it was, but it is still cooler than the sun. *Cf.* Plaintiffs’ Opening Brief, fn. 14.

powder, to moderate a temperature difference between the second layer of powder and fused portions of the first layer of powder.” Note that the powder is heated to a specific temperature,⁵ *which is cooler than that of the part that has just been fused*.

If “moderate” only means “heat,” there would be no purpose to specifying that the powder is heated to a specific temperature ... to moderate the temperature difference between the fused and unfused powder. The fact that the specified temperature is lower than that of the fused powder, thereby enabling the removal of bulk heat from the fused powder, is not coincidental, as described in the specification and the file history.

Any doubt about the plain meaning of the claim term in either the '589 or the '070 patent evaporates in the face of the respective file histories. Applicant's clear, unmistakable and deliberate statements requiring the removal of bulk heat leave no doubt that removal of bulk heat is a required element of the claim.

B. Statements Contained in the '070 File History Dictate that the Claims Include Removing Bulk Heat to Prevent Growth

A proper *Markman* analysis requires a review of the claims, the specification, and the file history to understand the meaning of the words written then, not now. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996). The reason why each of these must be thoroughly reviewed is because “[n]o matter how clear a claim appears to be, lurking in the background are documents that may completely disrupt initial views on its meaning.” *Autogiro Co. of Am. v. United States*, 384 F.2d 391, 397 (Ct. Cl. 1967); *Tandon Corp. v. U.S.I.T.C.*, 831 F.2d 1017, 1023 (Fed. Cir. 1987). In this case, the file history of the

⁵ In the Opening Memorandum, EOS demonstrated that the “sintering temperature of the powder” is indefinite and cannot be construed. However, it is clear from the specification, the prosecution history and the claim itself that *whatever this temperature is*, it is below the temperature of the sintered (fused) part.

'070 Patent is such a document, and the statements made therein clearly and unmistakably limit the claim well beyond its literal terms.

**1. Deckard Clearly And Unmistakably Disavowed
The Claim Scope That Plaintiffs Are Trying To Resurrect**

During prosecution of the '070 patent, Deckard limited the scope of the claim by arguing that "to moderate the temperature difference" includes removal of bulk heat to prevent growth of the article being formed. He did so to overcome the Arcella reference, which discloses an electrical heater that heats powder but does not remove bulk heat.

In particular, Deckard first argued that "moderating the temperature difference" is accomplished by merely heating the top layer of powder "to reduce shrinkage." In response, the Examiner cited the Arcella reference because that reference disclosed a heater that heats the powder prior to the laser fusing the powder.

Like the patents-in-suit, Arcella discloses building a part out of powder, layer by layer, using a laser. In contrast to the patents-in-suit, Arcella constantly fluidizes the unfused powder between the formation of each layer, and does not disclose unfused and fused powder being in proximity long enough for "growth" to occur.

More specifically, Arcella discloses a fluidized bed 1 (see Figs. 1 and 2, Exh. D at 112-113) having a casting chamber 2 having a porous diffuser plate 3 near its base. Powder 15 is supplied to the fluidized bed 1 from storage bin 19 and is fluidized by a gas, as follows. A valve 41 is turned on to permit gas from tank 40 to fluidize powder 15 through plate 3. The valve 41 is then closed, allowing the powder to settle and leaving a layer of powder on surface 17. The laser 13 is turned on and a laser beam 12 melts powder that is over surface 17, causing the melted powder to fuse onto surface 17, where it cools and solidifies. After the first layer of the shape has been formed, valve 41 is again opened to admit gas from tank 40 into enclosure

7, again fluidizing powder 15, throwing a new layer of powder over the top of part 16. Because the powder is fluidized following each layer formation, Arcella does not disclose unfused powder remaining in proximity with the fused powder, and hence, *Arcella does not encounter a problem with growth.*

Because Arcella does not encounter the problem of growth, much less solve it, Deckard distinguished his invention over Arcella by explaining that “moderating a temperature difference” between the fused and unfused powder included removing bulk heat from the fused part to prevent growth.

Note that the Examiner stated that if “heating” was all that was required for “moderating,” then Arcella had it. (Exh. D, p. 161). In response, Deckard had to *change his argument*, and distinguish the Arcella reference by explicitly stating that “moderating” requires “the removal of bulk heat from the article which prevents growth of the article into surrounding unfused powder.” (Exh. D, pp. 167, 178). Deckard’s admission as to why the Arcella prior art patent did not have what his claims required was clear, unmistakable, and deliberate: Arcella does not have anything to “moderate a temperature difference” between unfused and fused powder *because Arcella does not remove bulk heat from the fused part to prevent growth.*

By insisting that the moderation occurring in the claims removes bulk heat from the fused powder, Deckard rejected that Examiner’s broad assessment of the claim scope (*i.e.*, that “moderating the temperature difference” is accomplished simply by heating the top layer to reduce shrinkage), and stated in the public record what his invention could not be (*i.e.*, simply lessening the temperature difference by heating the top layer to reduce shrinkage). Because Deckard surrendered the broader construction of the function of “moderating a temperature difference” (as simply heating the top layer to “lessen” the temperature difference between the

first two layers) and instead chose the narrower construction of that function (including the removal of bulk heat to prevent growth), he unmistakably disclaimed the broader construction.

2. The Disclaimer of Claim Scope In This Case Is Exactly The Same Type Of Disclaimer That Happened In The Recent Federal Circuit Case of *Omega Engineering*

This case is strikingly similar to a very recent Federal Circuit case, *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314 (Fed. Cir. 2003). In *Omega*, the Federal Circuit provided a very thorough analysis of the law on the doctrine of prosecution disclaimer, which precludes patentees from capturing through claim interpretation specific meanings, and therefore claim scope, surrendered during prosecution. In *Omega*, the claim element at issue was written in means-plus-function format:

means for causing said at least one laser beam to strike the periphery of the energy zone for visibly outlining said entire energy zone.

Id. at 1318-19 (emphasis in original). The *Omega* court's analysis focused on the meaning of "to visibly outline." Ultimately, the court construed the claimed function to be:

the causing of at least one laser beam to strike the periphery of the energy zone for visibly outlining the entire energy zone, without adding appreciable heat to the energy zone as to affect the accuracy of the temperature measurement.

Id. at 1328 (emphasis added).

Despite the fact that the literal terms of the claim only required "to visibly outline," the *Omega* court's definition included the requirement of not adding appreciable heat to the energy zone. This went beyond the literal terms of the claim because the prosecution history of that patent indicated "that a clear and unmistakable disclaimer occurred regarding the term 'to visibly outline' in the claimed function...." *Id.* at 1326. In particular, the applicant repeatedly argued (to overcome prior art) that the invention would have no effect on the temperature measurement to be taken when it outlines the energy zone. *Id.* By doing so, the patentee "put the examiner

and the public on notice of invention's crucial feature: The invention would not add appreciable heat to the energy zone." *Id.*

The *Omega* court concluded:

By insisting that its invention directs energy in a way that does not affect temperature measurement, the patentee has rejected the examiner's broad assessment of the claim scope and stated in a public record what his invention could not be. That statement is a deliberate surrender of claim scope, unmistakable in its effect because it is not suitable to multiple interpretations as in *Northern Telecom [Ltd. v. Samsung Elec. Co.]*, 215 F.3d [1281,] 1294, 55 USPQ2d at 1075 [Fed. Cir. 2000)]. There is only one possible interpretation of this clear statement: The inventions covered by claims 1 and 3 have significantly reduced effect on temperature measurement.

Since the patentee offered a narrower construction of the verb "to visibly outline" in the disputed function, it has clearly and unmistakably disclaimed the territory between the full and ordinary meaning of the claim language and the asserted new meaning. The claimed function, as stated in claims 1 and 3, must not add appreciable heat to the energy zone as to affect the accuracy of the temperature measurement.

Id. at 1327.

The exact same situation is present here. Deckard had to agree that "moderating a temperature difference" requires bulk heat to be removed from the fused part to prevent growth in order to distinguish the claim over Arcella and get the claim allowed.

3. Plaintiffs' Argument That There Was Not A Clear And Unmistakable Disavowal Of Claim Scope Is Belied By The Record

Plaintiffs try to explain away the '070 file history by arguing that the statements made therein are both inaccurate and irreconcilable, and thus are "at best ambiguous." (Plaintiffs' Opening Brief, p. 12). Plaintiffs point out that initially, Deckard explained that "to moderate a temperature difference" in claim 1 includes reducing thermal shrinkage in the articles being produced, while later in the prosecution Deckard twice repeated the statements that issued claim 1 also accomplished the goal of preventing growth by removing bulk heat from the article.

Contrary to 3D's assertions, these statements are not in conflict with one another. Rather, these statements merely show that initially Deckard was trying to convince the Examiner that the claim only required heating the unfused powder to reduce shrinkage. The Examiner rejected that argument because Arcella discloses a heater for heating unfused powder to "provide heat treatment and stress relief" (*i.e.*, to reduce shrinkage). (Arcella, Exh. D, at 114, col. 6, lns. 50-55). In order to get the claim allowed, Deckard then further limited the claim by arguing that the claim required the removal of bulk heat to prevent growth. There is no inconsistency here. Rather, this merely reflects standard patent prosecution.

Plaintiffs also rely heavily on the fact that later in the prosecution, Deckard argued that issued dependent claim 6 also provides the benefit of bulk heat removal. According to Plaintiffs, this statement is somehow inaccurate and irreconcilable with the statements attributing to claim 1 the goal of preventing growth. But claim 6 depends from claim 1 (and therefore requires everything that Claim 1 requires), and the embellishment of how the bulk heat is removed provided by claim 6 does not in any way mean that this broad function is not in claim 1. The removal of bulk heat is required by both claims, and discussing it as to both claims 1 and 6 is perfectly consistent.

Plaintiffs' reliance on *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193, 1207 (Fed. Cir. 2002) (arguments presented during prosecution history were not germane to definition of claim term at issue); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1326, 1327 (Fed. Cir. 2002) ("[a]rguments and amendments made during the prosecution of a patent application ... must be examined to determine the meaning of terms in the claims" but noting that "neither the specification nor the prosecution history includes an expression of manifest exclusion or restriction demonstrating an intent to limit" the claim); *Arlington Indus., Inc. v. Bridgeport*

Fittings, Inc., 345 F.3d 1318 (Fed. Cir. 2003) (characterizing prior art did not constitute disclaimer); and *Brookhill-Wilk I, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294 (Fed. Cir. 2003) (the specification recited advantages of the preferred embodiments, not requirements of the claims) is misplaced -- in none of these cases did the inventor disavow claim scope during prosecution, as Deckard so clearly and unmistakably did in this case. Further, and as set forth in the case law cited in the Introduction, *supra*, Plaintiffs are bound by these admissions, even if Deckard and UT's attorney were inaccurate or mistaken.

4. The Case Law Relied Upon By Plaintiffs Is Completely Inapposite To This Patent Prosecution

Plaintiffs cast great weight on *Storage Tech. Corp. v. Cisco Sys., Inc.*, 329 F.3d 823, 832 (Fed. Cir. 2003), for the proposition that inaccurate and erroneous statements made during prosecution cannot be used to narrow the claim. In *Storage*, the claim required the step of "caching policy identification." *Id.* at 827. The defendant (the accused infringer) argued that a statement contained in the file history limited the claim to *also* require the caching of the instance of network policy. *Id.* at 832. During prosecution, the applicant stated that the "policy identification information" and the "instance of network policy" are both cached. *Id.* at 832. The court acknowledged that while "this statement appears to limit claim scope, it cannot do so absent some claim language referring to the caching of the instance of network policy." *Id.* Thus, the *Storage* court found that the statement "erroneously suggests that the independent claims include a cache for the instance of network policy" and held that the "inaccurate statement [that the claim limitation "caching policy information" also includes "caching of the issuance of network policy"] cannot override the claim language itself, which controls the bounds of the claim." *Id.*

In other words, the *Storage* case deals with a situation where the claim recited “element A,” but during the prosecution the applicant mistakenly states that the invention requires “element A” and “element B.” In the instant case, the term “moderating the temperature difference” is already in the claim -- there is no dispute about “element A.” What we have here is Deckard then clarifying that “element A” means the removal of bulk heat to prevent growth *and* heating to reduce shrinkage. He did not say that the claim required a totally different element.

All of the other cases relied upon by Plaintiffs are similarly distinguishable. In *Northern Telecom*, 215 F.3d at 1293-95, the claim limitation was directed to “plasma etching,” and the defendant (the accused infringer) argued that that limitation must exclude “ion bombardment” because of two paragraphs in the file history. *Id.* at 1293-94. In one paragraph, the applicant described prior art references which happened to disclose “ion bombardment” and then concluded that such prior art was “concerned with a totally different process.” *Id.* at 1294.

However:

[t]he description of the asserted references as “concerned with a totally different process” in paragraph 2 is far too slender a reed to support the judicial narrowing of a clear claim term. The inventors do not specify (except in paragraph 3, of course) how the references are “totally different.”

Id. at 1294. In the other paragraph of the file history, while the applicant described how the process differed from the asserted references, the court considered that the statements in this paragraph again did not specifically exclude “ion bombardment.” *Id.* at 1294-95.

Here, on the other hand, anybody reading the '070 file history can readily tell that Deckard plainly stated that “moderating a temperature difference” required the removal of bulk heat to prevent growth, with these admissions directly tied to distinguishing Arcella. There is nothing untethered or ambiguous about these repeated statements.

Plaintiffs' use of *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1359 (Fed. Cir. 2003), and *IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1439 (Fed. Cir. 2000), are also off-target. In both *Cordis* and *IMS*, the Federal Circuit examined statements made during prosecution to distinguish prior art. *Cordis*, 339 F.3d at 1359; *IMS*, 206 F.3d at 1439. Like *Northern Telecom*, the *Cordis* court held that the statement was "amenable to multiple reasonable interpretations and it therefore does not constitute a clear and unmistakable surrender" of claim scope. *Cordis*, 339 F.3d at 1359. Ambiguity was likewise found in *IMS*, 206 F.3d at 1439. Again, in this case, Deckard was not ambiguous, and could not have been more clear when he stated that "moderating a temperature difference" includes the removal of bulk heat to prevent growth of the article.

C. Statements Contained in the '589 Patent File History Also Confirm That The Claims Must Include Removing Bulk Heat to Prevent Growth

Here again, Plaintiffs claim that the function of "*moderating the temperature difference...*" found in claim 1 of the '589 patent simply means "to lessen the temperature difference" between the top two layers. Once again, the file history precludes that construction.

Plaintiffs admit, as they must, that during prosecution *the claimed invention* was characterized as "important for reducing differential shrinkage and growth." These were not "casual" and "gratuitous" statements. They were calculated to distinguish prior art to gain allowance.

As in the case of the '070 patent prosecution, Deckard explained that "moderating the temperature difference ... provides the important advantages of *reducing differential shrinkage* of the article being produced (which results from thermal gradients between fused and unfused powder) and *in reducing growth of the article* into unfused powder (which results from excess bulk heat in the article)." ('589 File History, Exh. B, pp. 556-568, at p. 563) (emphasis added).

Caught in the cross-hairs of Arcella, Deckard relied on these “important advantages” **three times** to distinguish this claim over the prior art. (Exh. B, at pp. 563-64; Exh. B, pp. 588-91; Exh. B, pp. 602-07). These were not “gratuitous” statements. Rather, they were required under the circumstances and were intended to distinguish the prior art to obtain claim allowance.

Instead of the insanity defense raised for the '070 statements, Plaintiffs here rely heavily on *Pickholtz v. Rainbow Techs., Inc.*, 284 F.3d 1365 (Fed. Cir. 2002), for the proposition that “casual and gratuitous” statements during prosecution do not result in the disclaimer of claim language. The facts of the *Pickholtz* case are quite at odds with those presented here, however, and *Pickholtz* is inapposite.

In *Pickholtz*, the claim at issue recited a “computer” having a “[PRN] device located in the computer.” The district court construed the term “computer” to exclude peripherals, rejecting *Pickholtz*’s argument that he had used the term “computer” and “computer system [including peripherals]” synonymously. The Federal Circuit reversed, agreeing with *Pickholtz* that the terms were used synonymously. In doing so, it examined the statements made in the prosecution history to see if they compelled a contrary result.

During prosecution, *Pickholtz* attempted to distinguish his claim from the Thomas prior art patent, which “clearly uses the terms ‘computer’ and ‘computer system’ in a part-whole relationship.” *Id.* (citations omitted). *Pickholtz* argued that Thomas lacks a “[PRN] generator device located in the computer.” The infringer argued that *Pickholtz*, by using the term “computer” in his remarks about Thomas, must have meant different meanings for the words “computer” and “computer system” *because Thomas did*. The Federal Circuit rejected such a tenuous argument, finding that Thomas did, in fact, disclose PRN generating software located in the computer, and further noting that “*Pickholtz* did not distinguish his invention over Thomas

(to prevent growth). Heating alone does not suffice, as the specification says, and as the file histories make crystal clear.

Plaintiffs correctly recite that the second step in construing claim limitations under §112, ¶ 6 is identifying the structure recited in the specification required to perform the function, but plaintiffs incorrectly suggest that structure can be pared down and rearranged in contravention of the specification. (Plaintiffs' Opening Brief, p. 15). As plaintiffs' own cases make clear, the Court must identify the structure *that the specification clearly links* to performing the function. *Northrop Grumman Corp. v. Intel Corp.*, 325 F.3d 1346, 1352 (Fed. Cir. 2003) ("structure disclosed in the specification is 'corresponding' structure 'only if the specification or the prosecution history clearly links or associates that structure to the function recited in the claim'"); *see also Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.*, 145 F.3d 1303, 1308 (Fed. Cir. 1998) (means-plus-function claim limitation "must be construed 'to cover the corresponding structure, material, or acts *described in the specification* and equivalents thereof'" (emphasis added)). Here, the specification and prosecution history only clearly link the entire downdraft system to "moderate a temperature difference," and they nowhere suggest that the resistance heater may be moved out of its passage, repositioned, and operated to "moderate a temperature difference." Plaintiffs' urgings to the contrary cannot be accepted.⁷

B. The Structure That Performs The Function Includes The Entire Downdraft System, And Cannot Be Just The Resistance Heater

Having properly identified the function, the structure disclosed in the patent specification that is linked to the function is the downdraft air system disclosed in FIG. 11. In its opening

⁷ Citing *ACTV, Inc. v. Walt Disney Co.*, No. 02-1491, 2003 WL 22300131 (Oct. 8, 2003) for the proposition that the identity of the function in a means-plus-function claim is limited to that "explicitly recited in the claim" (Plaintiffs' Opening Brief, p. 15, n. 21), Plaintiffs ignore the actual holding of *ACTV* -- the meaning of the function as "explicitly recited in the claim" requires construing the meaning of the function *in light of the specification and the prosecution history*. *Id.* at *8-10.

brief (at pp. 7-9), EOS explained in great detail all of the components in FIG. 11 that are required to heat the top layer of powder and remove bulk heat.

Plaintiffs, on the other hand, now want the Court to believe that the *only* corresponding structure is the resistance heater 142 shown in FIG. 11. The resistance heater 142, by itself, is not able to perform the function of heating the top layer of unfused powder and removing bulk heat from the fused powder. According to the '589 Patent specification, the removal of bulk heat to prevent growth is accomplished by directing heated air downwardly through the target area where the part is being built. Clearly, more than just the resistance heater 142 would be required to perform this function; heated air must be directed downwardly.

In addition to a resistance heater 142 for simply heating air (as in a toaster), a fan and or vacuum arrangement 140/141 (see FIG. 11) is required to move the heated air and to move it through the chamber 138 surrounding the support 134 upon which the part is built. The chamber is required to contain the air flow and direct it to the target surface. Moreover, because the air has to flow through the target area, the support 134 includes a porous material such as the filter medium 136, on top of honeycomb porous medium 148. Finally, the heated air is disclosed as being exhausted out of the chamber 138 to remove the bulk heat, and as a result, the plenum 150 is required to gather the air for passage to an outlet 152. All of the above-mentioned structure is set forth to perform the function of "moderating the temperature difference."

C. Plaintiffs' Claim Differentiation Argument Has No Merit⁸

Plaintiffs argue that the "temperature control means..." cannot be construed to include all of the elements of the downdraft air system, because such a construction would violate the

⁸ This section of EOS's brief applies equally to "means-plus-function" and "step-plus-function" claim elements under 35 U.S.C. § 112 ¶ 6.

doctrine of claim differentiation. In particular, Plaintiffs contend that because claim 2 of the patent requires “a heater for heating gas” and “means for directing the heated gas at the target surface,” and because claim 3 requires “exhausting means for exhausting the directed heated gas from the vicinity of the target surface,” the doctrine of claim differentiation requires that claim 1 must not include the fan and exhaust. Otherwise, according to Plaintiffs, claims 1, 2 and 3 would be rendered redundant.

This *exact same argument* has been completely discredited by the Federal Circuit. In *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538-39 (Fed. Cir. 1991), a means-plus-function claim element in an independent claim was construed to require a “cross member,” even though the dependent claim also required a “cross member.” The plaintiff argued, just as the Plaintiffs in this case are now arguing, that the independent claim “cannot also require a cross member because to so hold would emasculate the doctrine of claim differentiation.” *Id.* at 1538. In rejecting that argument, the Federal Circuit held that claim differentiation cannot override 35 U.S.C. §112, ¶ 6:

[s]imply stated, the judicially developed guide to claim interpretation known as “claim differentiation” cannot override the statute. A means-plus-function limitation is not made open-ended by the presence of another claim specifically claiming the disclosed structure which underlies the means clause or an equivalent of that structure. If Laitram’s argument were adopted, it would provide a convenient way of avoiding the express mandate of section 112[, ¶ 6]. We hold that one cannot escape that mandate by merely adding a claim or claims specifically reciting such structure or structures.

Id. at 1538. Plaintiffs’ claim differentiation argument must therefore fail.⁹ Moreover, claim differentiation cannot alter a definition that is otherwise clear from the claim language,

⁹ Moreover, contrary to Plaintiffs’ assertions, EOS has not violated the “tenet of claim construction” that limitations from the specification are normally not imported into the claims. Under 35 U.S.C. §112, ¶ 6, this is precisely what one must do to identify the required structure – look to the specification. None of the cases Plaintiffs cite in fn.10 are germane (*Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1326 (Fed. Cir. 2003), *Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298,

description, and prosecution history; where “the description provides a clear meaning for the language of the claim ... it trumps the doctrine of claim differentiation.” *O.I. Corp. v. Tekmar Co.*, 115 F.3d 1576, 1582 (Fed. Cir. 1997).

IV. PLAINTIFFS FAIL TO IDENTIFY THE PROPER CORRESPONDING STRUCTURE TO THE “MEANS FOR SUCCESSIVELY DISPENSING A PLURALITY OF LAYERS AT A TARGET SURFACE” LIMITATION IN CLAIM 1 OF THE ’589 PATENT

Claim 1 of the ’589 patent requires “means for successively dispensing a plurality of layers of powder ...” The only structure in the patent the corresponds to the claimed function of “dispensing a plurality of layers of powder” is the assembly shown in FIGS. 9 and 10 of the patent. The powder dispenser 14 disclosed in Figure 1 of the ’589 patent *is not* structure linked to and corresponding to the claimed function of dispensing a plurality of layers of powder because, quite simply, it does not create a layer of powder, let alone a plurality of layers as required by the claimed function. Instead, the powder dispenser 14 merely dumps (*i.e.*, dispenses) powder onto the target area in a mound, according to the specification. There is no structure disclosed in Figure 1 (or Figure 2 for that matter, or anywhere else in the specification except in relation to Figures 9 and 10) that is capable of forming *layers* of powder. Because the powder dispenser 14 does not perform the function of dispensing a plurality of layers of powder at a target surface, it cannot be deemed corresponding structure.

In their Opening brief, Plaintiffs state that the patents-in-suit disclose two alternatives for *dispensing new powder*, the hopper in FIG. 1 and the counter-rotating drum in FIGS. 9 and 10, thus implying that each of these alternatives constitutes structure that corresponds to the claimed

1307 (Fed. Cir. 2003), *Resonate Inc. v. Alteon Websystems, Inc.*, 338 F.3d 1360 (Fed. Cir. 2003), *Sunrace Roots Enter. Co., Ltd. v. SRAM Corp.*, 336 F.3d 1298 (Fed. Cir. 2002), and *Crossroads Sys. (Texas), Inc. v. Chaparral Network Storage, Inc.*, Case No. A 00 CA 217 SS (W.D. Tex. July 27, 2000)); as none of them addresses claim construction under 35 U.S.C. § 112, ¶ 6.

function of *dispensing a plurality of layers of powder*. However, as stated above, the hopper disclosed in FIG. 1 does not dispense layers of powder, and thus cannot constitute corresponding structure.

V. A STEP-PLUS-FUNCTION CLAIM BY ANY OTHER NAME IS STILL THE SAME; HERE, “DEPOSITING A FIRST LAYER OF THE POWDER AT A TARGET SURFACE” AND “HEATING...TO MODERATE” QUALIFY, BECAUSE ALL THEY PROVIDE IS A STEP WITHOUT AN ACT

While the use of the classic terminology “step for” is a red-flag for a presumptive step-plus-function claim, the case law is equally clear that, where a method claim element sets forth a function without disclosing the act necessary to perform it, the element shall be deemed to be in step-plus-function form. *Masco Corp. v. United States*, 303 F.3d 1316, 1327 (Fed. Cir. 2002); *Cummins-Allison Corp. v. Glory, Ltd.*, No. Civ. A.02-C-7008, 2003 WL 22125212 *6 (N.D. Ill., Sept. 5, 2003). Just as in the means-plus-function context, it is not just the use of the talismanic word “for” that determines the spots of the leopard, but rather it is the nature of the beast itself that must be looked to.¹⁰ Plaintiffs’ attempt (3D Brf. p. 8) to dismiss these steps and see them for what they are is myopic.

Nor do Plaintiffs show any act being present for performing the function of the step of “heating the second layer of powder to a temperature... to moderate a temperature difference...” in Claim 1 of the ’070 patent. As EOS showed in its Opening Brief at p. 13, this clause may be wordy, but this total functionality was confirmed by the file history when the step was added by Amendment (“the function of the heating operation, relative to the second layer, as moderating the temperature difference.” Exh. D, at p. 135). Heating “to a temperature below the sintering

¹⁰ Plaintiffs try to be equally dismissive in their fn. 12, citing some extrapolation that because the Federal Circuit has not dealt with many step-plus-function constructions, they are rare beasts. It may simply be that not many of these claims have been submitted to that Court, or been properly presented as such.

temperature” (whatever that is) is no more of an act than was “reducing the coefficient of friction to below about 0.40” was in *App. of Roberts*, 470 F.2d 1399, 1402 (C.C.P.A. 1973). There, it was found to be all function.

Accordingly, the only structure of the act for effecting the function of “heating ... to moderate ...” is that described in relation to Fig. 11, *i.e.*, the mechanism for removing the bulk heat, as well as raising the temperature of the second layer of powder. As in *App. of Roberts*, 470 F.2d 1399, 1402 (C.C.P.A. 1973), this clause “defines a result but fails to identify the specific act or acts required to produce the result claimed.”

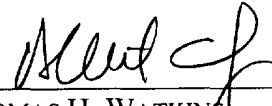
Plaintiffs fail to even address that the step of “depositing a first layer of the powder at a target surface” is also in step-plus-function format, notwithstanding that EOS had put them on prior notice that this step was to be construed. Apparently they agree that there is no “act” in this step, only “function.” Resort to the specification then reveals that the only structure for effecting this act is that described in relation to Figs. 9 and 10 (to wit, the hopper having a metering roller, leveling mechanism that has a cylindrical drum, and so forth as set forth in EOS’s claim chart, and at p. 18 of our Opening Brief).

VI. CONCLUSION

Deckard’s own statements contained in the file history dictate that “moderating a temperature difference” includes the removal of bulk heat to prevent growth of the part being built. Calling them “inaccurate,” “inconsistent,” “irreconcilable,” “ambiguous,” “casual” and “gratuitous” does not make them so. Deckard’s admissions, which were of course made before this lawsuit existed, were both clear and unmistakable, and no amount of Plaintiffs’ litigation-induced spin can change that fact. The constructions set forth by EOS should be adopted for the terms discussed herein as well as those that Plaintiffs failed to address.

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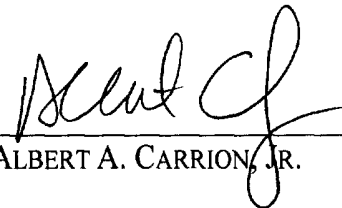
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SPRINGFIELD, MASSACHUSETTS, U.S.A.

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WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY
PRINCIPAL COPYRIGHT 1961

Library of Congress Cataloging in Publication Data
Main entry under title:

Webster's third new international dictionary of
the English language, unabridged.

Includes index.

1. English language—Dictionaries. I. Gove,
Philip Babcock, 1902–1972. II. G. & C. Merriam Company.
PE1625.W36 1981 423 81-16878
ISBN 0-87779-201-1 (blue Sturdite)
ISBN 0-87779-206-2 (imperial buckram) AACR2

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—*Collier's Yr. Bk.*) 5 a : limited in scope or effect (made a ~ change in the bill which failed to satisfy its critics) (his new wealth had only a ~ effect on his way of life) b : not severe in effect : not seriously or permanently disabling or incapacitating (a few days of ~ illness accompanied by chilly sensations and loss of appetite —Morris Fishbein) (of the 18 cases in which whooping cough developed . . . 13.3 percent were very mild, 4.8 percent were mild and 3.7 percent were ~ —*Jour. Amer. Med. Assoc.*) 6 : not expensive : reasonable or low in price (how to be well dressed at a ~ cost —*Current Blog.*) (a ~ price for a new house) 7 of a color : of medium lightness and medium chroma

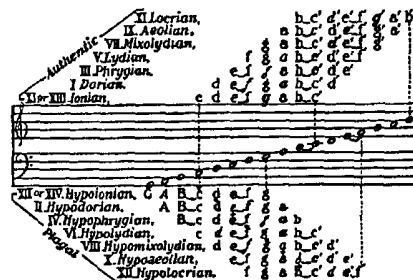
²*mod·er·ate* \ˈmädə,rāt, usu -ād-+V\ *vb.* -ED/-ING/-S [ME *moderaten*, fr. L *moderatus*, past part. of *moderare*, *moderari* to moderate] *vt.* 1 a : to lessen the intensity or extremeness of : make less violent or excessive : keep within bounds : make moderate or temperate (considerations of logic and analogy and history and tradition which ~ and temper the promptings of policy and justice —B.N.Cardozo) (moderated the harshness of their initial demands) (a quick and efficient job of snow removal moderated the effect of the storm) b : to lower or soften the tone of (a voice) (moderated his voice as they approached the sickroom) (~ your voice if you expect to be listened to) 2 *archaic* : to exercise control over : REGULATE, RULE 3 : to preside over or act as chairman at (moderated the debate with perfect fairness) (moderated a small local variety show —Gladwin Hill) 4 : to reduce the speed or energy of (neutrons) ~ *vi.* 1 : to act as a moderator (became famous when he moderated on a weekly panel show) 2 *archaic* : to act as a mediator 3 : to become less violent, severe, rigorous, or intense (the wind has moderated) (loitering a little because the night had moderated —Kay Boyle)

SYN QUALIFY, TEMPER, ATTEMPTER: MODERATE indicates abating extremes or excesses in keeping within reasonable or due limits (moderating his big voice to the dimensions of the room —Clifton Daniel) (if the new poets can bring themselves to moderate their attitude of somewhat sensitive resentment

manifestations of God
 mo-da-l-i-ty (mɔ'da-l-i-ˈti, -i ɪ ˈti) [F *modalité*, fr. MF *mo-
 di*, *mo-dal* (cf. *modals*) + *-i-ty*] 1 a: the quality or
 state of being *modal* (as of his music) (~ of a circle)
 b: modal quality, attribute, or circumstance: FORM,
 PATTERN (as the varying subject matter requires, the narrative
 and style take on the *modalities* of comedy, romance, tragedy,
 or tragicomedy —J.V. Beach) 2: that qualification of logical
 propositions according to which they are distinguished as
 asserting or denying the possibility, impossibility, contingency,
 or necessity of their content — see CATEGORY 1b 3: one of
 the main avenues of sensation (as vision or audition) 4 a: any
 of several agencies used in physical therapy (as diathermy,
 high-frequency currents, or massage) b: an apparatus for
 applying such agencies 5: a tendency to conform to a
 pattern or type (the greater ~ of the male sex regard
 indicated by a smaller presentation of males than females
 in the category "Miscellaneous" — Eleanor Smith & J.H.
 Greenberg *Mynapse*).

modal value *n* : MODE 8
 1mode \ 'mōd\ *n* -s [ME *moede*, fr. L *modus* measure, manner.

Alcoran b a' d' a' f' d' a' b



mode 1a : ecclesiastical modes

musical mode — more at METR. 1 a: a musical arrangement of the eight diatonic notes or tones of an octave according to one of various fixed schemes of intervals — see ACCORD. 1
 TONE: a musical mode: b: a rhythmic scheme; *specif.* 1 one of the six metrical patterns in 13th and 14th century music corresponding to the feet (as trochee or dactyl) in classical poetry and expressed in triple time 2: MOOD 2b (the indicative ~ of flat assertion alone — Weston La Barre) 3 [LL. *modus*, fr. L., measure, manner] a: MOOD 1a b: the manner in which a logical proposition is asserted or denied esp. as being possible, impossible, necessary, or contingent 4 a: a particular form or variety of something (a large and overpowering set of brothers and sisters, who were ~s or replicas of the same type — Henry Adams) (her anguish of the night before was in another ~ — Josephine Pinckney) (separating movement on foot from other ~s of traffic — Lewis Mumford) b: a form, pattern, or manner of expression: STYLE (the only English poet who has adapted it to his needs — the regular of pole — H. Gardner, (his) manifestation (his first literary ~ — Austin Warren) (perhaps the major expressive ~ of his day, the ~ of the liberal Emersonian sermon — R.P. Blackmur) 5: a manner of doing something or of performing a particular function or activity (as the one or the other ~ of ratification may be proposed by the Congress — U.S. Constitution) (new ~s of experimentation had to be developed — J.B. Conant) (the Renaissance ~ of thinking in symbols — Michael Kitson) 6: a condition or state of being: a manifestation, form, or manner of arrangement; *specif.* 1 a particular form or manifestation of some underlying substance, or of some permanent aspect or attribute of such a substance — compare MIND-MODE 2. 7: a group or group of people (a homogeneous population that departs reluctantly from long-accepted intuitions and ~s — Amer. Guide Series: Pa.) (bound up with regional ~s of feeling and local traditions — Van Wyck Brooks) (a sedentary agricultural-hunting ~ of life — R.W. Murray) 8: the value of the variable in a statistical distribution for which the frequency is a maximum: the value that occurs most frequently: the most common value (whether the talk is of Americans the image is always one of the ~ or average person — Saturday Rev.) 9: any of various stationary-vibration patterns of which an elastic body or an oscillatory system is capable (the vibration ~s and frequencies of the airplane were computed — Wilhemina Kroll); *specif.* 1: the vibration pattern of electromagnetic waves (as in lines ~ or wave guides) (in the field of radar the various ~s in which waves are propagated are designated by different symbols — Television — Rock Encyc.) 10: the actual mineral composition of a rock as distinguished from the norm 11 *crystallog.* 1: the type of lattice (as primitive or body-centered) (lattice-mode). 8711 see METHOD, STATE

mode ˈmɔː n ɪz (F, fr. L. *modus* measure, manner — more at METER) 1: a prevailing fashion or style of dress or behavior (harbored the cultural backwash of Europe and looked to its staid romanticism as the ~ —H.F. Mooney) (sleeping on top of television sets is the ~ of the day for cats —*New Yorker*) (the contemporary ~) (the newest ~ in dresses) (all the ~) 2: a stamp, sum, set, fashion

mo-dec-ca flower \mō'dēka- \ n [modecca fr. NL Modecca
(syn. of *Adenia*, genus name of the killer plant *Adenia sinen-*

model ¹ /mɒd'əl/ *n* [MF *modelle*, fr. OIt *modello*, fr. (assumed) VL *modellus*, fr. L *modulus* small measure, fr. *modus* measure, manner + *-ulus*] 1 *obs*: a set of plans for a building to be erected or of drawings to scale for a structure already built; *also*: a ground plan esp. of a garden (we first survey the plot, then draw the ~ —Shak.). 2 *Idt Brit*: a person or thing that exactly resembles another: COPY, IMAGE (had my father's signet in my purse, which was the ~ of that Danish seal —Shak.). 3 *obs*: something that encases or wraps around

ten (bark) ~ the inward greatness ~ like little body with a mighty heart ~ (Shak.); structural design; **PATTERN** (built his home on the ~ of an old farmhouse) (began his teaching by organizing a seminar on the German ~ ~ J.S. Bassett) (providing for the founding of New Jersey towns on the New England ~ ~ *Amer. Guide Series: N.J.*) **6 a**: an abstract or summary of a written work; **EPIPHONE** **6 a**: a usu. miniature three-dimensional representation of something existing in nature or constructed or to be constructed (a mile-long concrete ~ of the Mississippi valley ~Time) (a 15-foot ~ of a full-rigged ship ~ *Amer. Guide Series: N.J.*) **7**: a model or miniature representation through which the observer is able to see a representation in relief or three dimensions in plaster, papier-mâché, wood, plastic, or other material of a surface or solid **7**: something made in a usable material (as clay or wax) and intended to serve as a pattern of an object or figure to be made in a more permanent

trapper > with a high guard at the toe >—R.L.Neuberger)
(2) an article of clothing (as a dress with a distinctive design)
(girls, self-conscious in their Paris >—Paul Bowles) b
A specific type or design of car (>offers eight new > for next
year, including a completely restyled convertible) C :
a modification or variation of a general type or mark of military
equipment 14 A : a description, a collection of statistical
data, or an analogy used to help visualize often in a simplified
way something that cannot be directly observed (as an atom)
b : a theoretical projection in detail of a possible system of
behavior (as in economic, political, or psychology)
BLUEPRINT (his or an election procedure based on permanent
personal registration reveals some of the problems to be
solved) (>constructed the first of the world > of the present
century >—S.F.Mason)

SYN. EXAMPLE, PATTERN, EXEMPLAR, PARADIGM, IDEAL. BEAU IDEAL. STANDARD. MIRROR: MODEL applies to something set up or held out as worthy of imitation, sometimes preeminently so (a workmen's compensation law which is still considered a *model* piece of legislation—*Current Biog.*) (*models* for the development of his own habitual responses to various situations—Ralph Linton) (*the very model* of a modern major general—W.S.Gilbert) EXAMPLE applies chiefly to a person to be imitated or, in some contexts, emphatically not to be imitated (a *model* of a good citizen—Cicero) but also to a warning (one of the immortal *examples* of a true man in a world of bounders, cowards, and squeaking specters—W.L. Sullivan) (presents an *example* in modern department store designing—*Retailing Daily*) (making the mutineers *examples* for the rest of the crew) PATTERN may suggest a clear or detailed archetype or prototype (many hymns that set the *pattern* for the stately hymnology of the American Protestant Church—*Amer. Guide Series: N.Y.*) (*the ancient pattern* of life had been woven continuously for so many centuries that even illiterate farmers knew how to be courtly and dignified at family celebrations or at the great yearly festivals—John Biefeld) EXEMPLAR indicates either a faultless example to be imitated (the *exemplar* of a good citizen—Cicero) or, primarily an ethical system; Christ was its great teacher and *exemplar*; and to be a Christian meant to conduct one's life in accordance with the principles which governed Him—A.C. McGiffert) (the living *exemplar* of tragedy as the human lot—V.S.Pritchett) PARADIGM, now rare in this sense, may suggest an exemplar of a perfection impossible or unusual in reality (a love worthy of being a *paradigm* of the cosmic relation of universal matter and universal form, this all-comprising power, cannot be a vague feeling—F.F. Borgegou) IDEAL indicates the best possible exemplification either in nature (the *ideal* in a natural compass) (the *ideal* of a man and a rebelliousness of his own courage too much on his mind; these were his *ideal*—Glenway Wescott) (a multitude of stories and traditions grew up around his name, to be interpreted according to the hearers' own *ideals* of personality and education—D.E.Smith) BEAU IDEAL sometimes is taken to mean "beautiful ideal" (the very *beau ideal* of a perfect government is the government of a majority, acting through a representative body—J.C.Calhoun) STANDARD may indicate that which embodies criteria for excellence and sets a high example for emulation (the ideal of general cultivation has been one of the *standards* in education—C.W.Eliot) (human life on earth cannot continue unless we ordinary men and women can manage to practice these virtues up to a fair degree—Stanford Fordyce) (*the* *standard* was often used to mean a model of perfection (Bounteous Buckingham, the *mirror* of all courtesy—Shak.).

courtesy) → \ˈʃʌk/ → modeled or modelled; modeled or modelled;
modeling or modelling \-d(ɪŋ)/ models v: 1: to plan or
form after a pattern: FRAME, SHAPE →ed a double-decked
steamboat—Waldemar Kampeffert 2 archaic: to make into
an organization (as an army, government, or parish) 3 & 1:
to shape or fashion in a pliable material (as clay, wax, or dampened
leather) (a file of plasticine animals →ed by the little
girls —Elizabeth Bowen) b: to give a three-dimensional
appearance to in painting or drawing esp. by means of
chiaroscuro →s the head so that it seems to stand out from
the canvas c: to emphasize the three-dimensional qualities
of (a photographic subject) by means of highlights and
shadows →ed light for portraiture (she asked her husband to let
her assist her to the scene, so as to live, if we emphasize Aarons Sussman)
→s the face of the man →s the figure of the woman d: to construct or
fashion in imitation of a particular model
→ed its constitution on that of the U.S.) (as for the speeches
to Congress, they were palpably →ed upon the speeches from
the throne of the English kings —H.L.Mccken) 5 e: to
display by wearing, using, or posing with (→ed her inaugural
gown at a fashion show —N.Y.Times) (famous for →ing
refrigerators and other appliances) → vi 1: to design or
construct forms: make a pattern (she enjoys →ing in clay)
2: to work or act as a model (asked each contestant ... to
→ before the judges' enclosure —Lillian Ross)
a model \ə ˈdɒl/ adj: serving as or capable of serving as a model (a

model basin or model tank *n*: a tank in which ship models are tested (as for inertia) by being towed at various speeds
mod-el-er or mod-el-er \ 'mäd(ə)lə(r) \ *n* -s: one that models:
as *a*: a carver of leather shoe vamps and uppers *b*: one who molds in a plastic material designs to be copied for decorative
mold or statuary
mold or statuary

mod-el-ize \-d'ī,īz/ vt, *archaic* : to give a particular form to

model school n : a graded school usu. connected with a normal school or teachers' training college and used as a model in organization and methods of teaching

Model T adj., usu. cap M&T [fr. Model T, early type of motor car having only two speeds forward and a hand gasoline feed that was manufactured by the Ford Motor Co. between 1909 and

1927] 1 : belonging to an initial or rudimentary phase of development (when nuclear weapons were in the *Model T* stage of development — *N.Y. Times*) 2 : OLD-FASHIONED, OUTMODED

mo-de-na \ˈmɒdˌnə, -ˌn, ɪ\ *adj.* usu *cap* [fr. *Modena*, city in northern Italy, capital of the province of Modena] : of or from the city of Modena, Italy : of the kind or style prevalent in Modena

modena '\` n. fr. *Modena*, province or its capital city in northern Italy | 1. usu. cap : an Italian breed of small brown pigeons that have an erect carriage and varicolored plumage with the head and wings often of a color different from that of the body 2. 3. often cap : any pigeon of the Modena breed | mod-e-nese '\`mod-n-ēz, -ēz n. pl. modeneses '\` cap [It. *modenese*, fr. *Modena*, Italy + It. -ese] : a native or resident of Modena

mod-er-ant \ˈmādərənt\ *n* -s [²*moderate* + *-ant*, *n.* suffix]
something that moderates
mod-er-ant-ism \-n,izəm\ *n* -s [*F modérantisme*, fr. *modér-*

mod-er-ant-ist \-təst\ n. -s [F *modérantiste*, fr. *modérant* +

mod-er-ate \ˈmɒd(ə)rət, usu -əd- + V\ *ad* [ME, fr. L. *moderatus*, past part. of *moderare*, *moderari* to moderate, fr. *modus*

~*Collier's Yr. Bk.* 5 a: limited in scope or effect (made a ~ change in the bill which failed to satisfy its critics) (his new wealth had only a ~ effect on his way of life) b: not severe in effect: not seriously or permanently disabling or incapacitating (a few days of ~ illness accompanied by chilly sensations followed by a ~ cold) c: of moderate intensity (a ~ cough, which whooping cough developed ~) 13.3 percent were very mild, 4.8 percent were mild and 3.7 percent were ~ ~*Jour. Amer. Med. Assoc.* 6: not expensive: reasonable or low in price (how to be well dressed at a ~ cost ~*Current Blog.*) (a ~ of medium lightness) 7 of a color: ~ of medium lightness ~*Am. Mus. Yr. Chron.*

moder- / mod- [ME *moderāre*, fr. L. *moderatus*, past part. of *moderare*, *moderari* to moderate] **v** 1 **a**: to lessen the intensity or extremeness of > make less violent or excessive | keep within bounds > make more or temperate (considerations of logic and analogy and history and science) > temper the prompting of policy and justice — B.N. Cardozo > temper the harshness of their initial demands (a quick and efficient job of snow removal moderated the effect of the storm). **b**: to lower or soften the tone of (a voice) (*moderated* his voice as they approached the sickroom) (< your voice if you expect to be listened to >) 2 **a** *archaic*: to exercise control over > REGULATE. **RULE** 3: to preside over or act as chairman at (*moderated* the debate with perfect fairness) (*moderated* a small local variety show — Gladwin Hill) 4: to reduce the speed or energy of (neutrons) ~ *vi* 1: to act as a moderator (< became famous when he *moderated* on a weekly panel show >) 2 *archaic*: to act as a mediator 3: to become less violent, severe, rigorous, or intense (the wind has *moderated*) (<loitering a little because the night had *moderated* — Kay Boyle)

SYN QUALIFY, TEMPER, ATTEMPTER: MODERATE indicates abating extremes or excesses in keeping within reasonable or due limits (*moderating his big voice to the dimensions of the room* —Clifton Daniel) (if the new poets can bring themselves to *moderate* their attitude of somewhat sensitive resentment towards those who call their art in question —J.L.Lowe)s **QUALIFY** may indicate addition of restriction or precise definition (*qualifying his earlier statements by adding a qualifying objection*): it may be a close synonym for MODERATE (the neat craftsman has means of *qualifying* or abating his own perilous air of arrogant omniscience —C.E.Montague) (but this simple and bare outline of the procedure must be supplemented and *qualified* —Samuel Alexander) (*qualified* his reports in the *Boston News-Letter* according to the demands of the royal government) **TEMPER** may suggest the process of qualifying or mitigating of the severe or modifying, recommending to moderation (*temper'd* the angry breeze) (*temper'd* the fiery indignation) (*temper'd* the situation) (always a cool breeze *temper'd* the sunshine —A.B. Osborne) (close to being a major work in war fiction, and only my caution *temper* my admiration —M.D.Geismar) (the catalogue of one Virginia seminary was promising to *temper* the severities of arithmetic to the delicacy of the female mind —*Amer. Guide Series: Va.*) **ATTEMPTER** is a close but now rarely used synonym for TEMPER in the sense of lessening (the shadow of the *attempter* the cheery western sunshine —Nathaniel Hawthorne)

moderate *mod-er-ate* *f* (mod-*er-ate*, *usu* -*əd* - *v*) *n* -1 [*moderate*: intended trans. of *f* *moderate*] 1 a one who holds moderate views esp. in politics or religion (the middle-of-the-road ~s in the world . . . who wanted both stability and liberalism —W.G. Carleton) (H.K.A.) 2 often *cap* a member or adherent of a political party or group favoring a moderate program (second term as the candidate of the *Moderates* —*Rev. of Reviews*) *moderate breeze* *n* : wind having a speed of 13 to 18 miles per hour (moderate breeze wind scale table) *moderate ground* *n* : wind having a speed of 32 to 38 miles per hour —see *BEAUFORT SCALE* table *mod-er-ate-ly* *adv* (mod-*er-ate*, -*li*) *adv* [ME *moderately*, fr. *moderat*, *moderate* moderate + *-ly*] 1 in a moderate manner or to a moderate extent : FAIRLY, TEMPERATELY (lived ~) (a ~

moderate oven *n* : an oven heated to a temperature between 325° and 400° F

moderation, moderate, moderation, moderate + -ion, -ation 1: the quality or state of being moderate; an avoidance of extremes: TEMPERANCE (a man who knew no ~ in his requests and impulses —Thomas Hardy) (a ~ of speech and of outward attitude which as conservatism counts a ~) 2: the action of moderating: SPECIFICALLY (the ~ of intensity (international policy with respect to the control or intensification of depressions —A.H.Hansen) 3 MODERATIONS pl.: the first public examination for the B.A. in classics or mathematics at Oxford university following responses — called also *mods*

— in moderation *adv*: without excess; TEMPERATELY
 —mod-er-a-tion-ist *n* -ist *n* -s: an advocate of moderation
 —mod-er-a-tism /mōd(ə)rə'tīzəm, -tīz-*n* -s: moderation in
 doctrines or opinions; *specif*: the opinions or policy of a
 —moderate party or group in politics or religion
 —mod-er-a-tist *n* -ad-ist, -ist *n* -s: an adherent of modernism
 —mod-er-a-to /mōd(ə)rə'd-*o* *adj* (or *adv*) [It (past part. of
 —moderate to moderate), (fr. *L.* moderatus, past part. of *mod-*
 —*erare*, *moderari* (to moderate) — more at MODERATE]: MODERATE
 — used as a direction in music to indicate tempo

mod·er·a·tor \ 'mādə,rād-ə(r), -rāt-ə \ *n* -s [ME *moderator*, fr. L *moderator*, fr. *moderatus* (past part. of *moderare*, *moderari* to moderate) + *-or*] 1 : one that rules or directs : GOVERNOR (act in his name as ~ of the Western realm —E.A. Freeman)

2 : one who arbitrates : MEDIATOR (the governor persuaded both sides to continue their talks with the ~ —*Springfield (Mass.) Union*) **3** : one who presides over an assembly, meet-

ing, or discussion: **a**: a presiding officer of any of various church meetings or assemblies within Protestant Christianity; **esp**: the presiding officer elected within a Presbyterian polity to preside over a general assembly or over a smaller regional meeting; **b**: an official presiding over the exercises formerly prescribed for candidates for an academic degree — now used of an examiner for moderations at Oxford as well as of one of the two officers presiding over the mathematical tripos at

Cambridge 0: the nonpartisan presiding officer of a town meeting. 4: a person who acts as chairman of a discussion group (as on radio or television). 4 *archaic*: a person or thing that moderates or calms (angling was ... a ~ of passions — Isaac Walton). 5 a: a member of a group opposed to the violent methods of the regulators in No. Carolina about 1770. b: a member of one of numerous illegal bands active esp. in Texas about the middle of the 19th century. 6: a candidate

for the B.A. at Dublin taking first or second honors 7: a substance (as graphite, deuterium in heavy water, or beryllium) used for slowing down neutrons in a nuclear reactor

mod·er·a·to·ri·al \ˈmädərəˈtōrēəl, -tôr-\ *adj* : of, relating to, or characteristic of a moderator
moderator lamp *n* : a 19th century oil lamp burning colza oil

and having a special regulator for the oil supply to the wick.
mod·er·a·tor \ 'mā-də-rā-də(r), ship, -rā(-) n 2 the position or duties of a moderator

measure, manner — more at METE] 1 a : characterized by an avoidance of extremes of behavior : observing reasonable limits : showing discretion and self-control (a ~ drinker) (a ~ eater) (a person of ~ habits) b : free from passion or excitement : CALM, REASONABLE (though very much in favor of the measure, he expressed himself in ~ language) (his demands were very ~) 2 a : tending toward the mean or average: as (1) : neither small nor large (a family of ~ income) (a room of ~ size) (a ~ crop) (2) : neither short nor long (a book of ~ length) (a ~ distance) b : having an average or less than average quality : MEDIOCRE (cheesecakes very ~ indeed — H.E. Bates) (wrote ~ poetry to the end of his life — Carl Van Doren) 3 : not violent or rigorous : TEMPERATE (a ~ winter) (a ~ wind) (a ~ climate) 4 : of or relating to a political or social philosophy or program that avoids extreme measures and violent or partisan tactics (has no interest in leading a party that goes off to extremes, that the party direction must be ~ and yet progressive and dynamic — *N.Y. Times*) (all left-wing and some ~ and right-wing groups had boycotted the election — *Collier's Yr. Bk.*) 5 a : limited in scope or effect (made a ~ change in the bill which failed to satisfy its critics) (his new wealth had only a ~ effect on his way of life) b : not severe in effect : not seriously or permanently disabling or incapacitating (a few days of ~ illness)

modal auxiliary

1451

moderatorship

modal auxiliary *n*: a verb or a grammatical form resembling a verb that is characterized by used with a verb, predication and expresses a modal modification (as *can, shall, will, must, might, ought, could, should, would, may, need, dare*) and that in English differs formally from other verbs in lacking *-s, -ing*, and past-tense forms and shares with other auxiliaries the effect of negative *-n't*

modalism *\ˈmɒdəlɪzəm\ n* *s* [*modal + -ism*]: the theological doctrine that the members of the Trinity are not three distinct persons but rather three modes or forms of activity (the Father, Son, and Holy Spirit) under which God manifests himself

modalist *\ˈmɒdəlɪst\ n* *s* [*modal + -ist*]: an adherent of modalism — **modalist** *n* *s* [*modal + -ist*]: an adherent of modalism

modalistic monarchianism *n*, *usu cap both Ms*: an adherent of modalistic monarchianism

modalistic monarchianism *n*, *usu cap both Ms*: Monarchianism holding that Jesus Christ was not a distinct person of the Trinity but was rather one of three successive modes or manifestations of God

modalist *\ˈmɒdəlɪst\ n* *s* [*F modalist*, *fr. MF, modality* (*fr. ML modalis*) + *-ist*]: 1. a: the quality or state of being modal (the *quality of his music*) ~ of a circle 2. a modal quality, attribute, or circumstance: FORM, ATTRIBUTES (as the varying subject matter requires, the narrative style take on the modalities of comedy, romance, tragedy, tragedy) — J.W. Beach 2: that qualification of logical propositions according to which they are distinguished as asserting or denying the possibility, impossibility, contingency, necessity of their content — see CATEGORY 1b 3: one of the various avenues of sensation (as vision or audition) 4: a: any several agencies used in physical therapy (as diathermy, frequency currents, or massage) b: an apparatus for applying such agencies 5: a tendency to conform to a form or type (the greater ~ of the male in this regard is caused by a smaller representation of males than females) — see CATEGORY "Miscellaneous" — Eleanor Smith & J.H. Merriam (Monane)

modal *\ˈmɒdəl\ n* *s* [*ME mode*, *fr. L. modus* measure, manner, *mod* (*mod*) *n* *s* [*ME mode*, *fr. L. modus* measure, manner,

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material (made many ~s of the coin before he was satisfied with one) 8: a person or thing regarded as worthy of imitation 9: something perfect of its kind (briefly that renders both writers such valuable ~s to an age whose very literary fault is diffuseness — Richard Garnett 1906) 10: remains a ~ of scientific argument — B.W. Bacon (his written addresses are ~s of clearness, logical order, and style — A.B. Noble) 9: a person or thing that serves as a pattern or source of inspiration for an artist or writer (his father was the ~ for one of the most famous characters in literature); esp: one who poses for an artist (his wife served as the ~ for many of his early paintings) 10: ARCHETYPE 11: an organization whose appearance a mimic imitates — compare DEMOCRACY 12: one who is employed to display clothes or to appear in displays of other merchandise (as in a fashion show, in a photograph, or on television) (left school to go to work as a dress ~ in the garment district — *Current Blog*) (he has appeared as a ~ in advertisements for cigars) 13: a (1) a specific type or design of clothing (favors the Alaskan trapper ~ with a high guard at the toe — R.L. Neuberger) (2) an article of clothing (as a dress with a distinctive design) (girls, self-conscious in their Paris ~s — Paul Bowles) b: a specific type or design of car (offers eight new ~s for next year, including a completely restyled convertible) c: a modification or variation of a general type or mark of military equipment 14: a ~ a description, a collection of statistical data, or an analogy used to help visualize (as an atom) way something that cannot be directly observed (as a theory) b: a theoretical projection in detail of a possible system of human relationships (as in economics, politics, or psychology) c: BLUEPRINT (his ~ of an election procedure based on permanent personal registration reveals some of the problems to be solved) (constructed the first of the world ~s of the present century — S.F. Mason)

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measure, manner — more at METE 1 a: characterized by an avoidance of extremes of behavior: observing reasonable limits: showing discretion and self-control (a ~ drinker) (a ~ eater) (a person of ~ habits) b: free from passion or excitement: CALM, REASONABLE (though very much in favor of the measure, he expressed himself in ~ language) (his demands were very ~) 2 a: tending toward the mean or average (as (1) neither small nor large (a family of ~ income) (average as ~ size) (a ~ crop) (2) neither short nor long (a book of ~ length) (a ~ distance) b: having an average or less than average quality: MEDIOCRE (cheese cakes very ~ indeed — H.E. Bates) (wrote ~ poetry to the end of his life — Carl Van Doren) 3: not violent or rigorous: TEMPERATE (a ~ winter) (a ~ wind) (a ~ climate) 4: of or relating to a political or social philosophy or program that avoids extreme measures and violent or partisan tactics (has no interest in leading a party that goes off to extremes) (the party direction must be ~ and yet progressive and dynamic — *N.Y. Times*) (all left-wing and some ~ and right-wing groups had boycotted the election — *Collier's* *Yr. Bk.*) 5 a: limited in scope or effect (made a ~ change in the bill which failed to satisfy its critics) (his new wealth had only a ~ effect on his way of life) b: not severe in effect: not seriously or permanently disabling or incapacitating (a few days of ~ illness accompanied by chilly sensations and loss of appetite — Morris Fishbein) (of the 18 cases in which whooping cough developed ~, 13.3 percent were very mild, 4.8 percent were mild and 3.7 percent were ~ — *Jour. Amer. Med. Assoc.*) 6: not expensive: reasonable or low in price (how to be well dressed at a ~ cost — *Current Blog*) (a ~ price for a new house) 7 of a color: of medium lightness and medium chroma

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